	Application No.	Applicant(s)
Notice of Allowability	10/044,355	KAGAMI ET AL.
	Examiner	Art Unit	
	Duyen M. Doan	2152	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *5/25/2007*.

2. ☒ The allowed claim(s) is/are *1-20*.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All b) ☐ Some* c) ☐ None of the:

        1. ☐ Certified copies of the priority documents have been received.

        2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

        3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the

           International Bureau (PCT Rule 17.2(a)).

    * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.

    (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached

        1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____ .

    (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of

        Paper No./Mail Date _____ .

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)

2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)

3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____

4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material

5. ☐ Notice of Informal Patent Application

6. ☒ Interview Summary (PTO-413), Paper No./Mail Date *6/15/2007* .

7. ☒ Examiner's Amendment/Comment

8. ☒ Examiner's Statement of Reasons for Allowance

9. ☐ Other
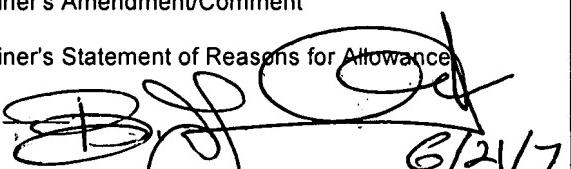
BUNJOB JAROENCHONWANI
SUPERVISORY PATENT EXAMINER

Examiner's Amendment

Claims 1-20 are allowed.

Claims 21-25 are cancelled.

An examiner's amendment to the record appears below. Should the changes

and/or additions be unacceptable to applicant, an amendment may be filed as

provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be

submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview

with applicant's representative Mr.Pavel Pogodin (registration # 48,205) on 6/15/2006.

Add limitations of claims 21-25 to independent claims 1,4,11,15,20 respectively. Cancel

claims 21-25.

The application has been amended as follows:

1. (Currently Amended) A method for controlling a service at a center system,

wherein via a network, the center system is connected to a host computer, a storage

subsystem and a switch whose ports are physically connected to an I/0 controller of the

host computer and ports of the storage subsystem, the method comprising:

receiving a storage allocation demand comprising a request for establishing a logical

data I/O path between the host computer and the storage subsystem via the switch;

directing the switch and the storage subsystem to assign at least one port for the logical data I/O path;

making account information based upon at least the number of ports assigned at the switch; wherein:

the account information comprises at least a billing information and a payment information;

the storage allocation demand is received by the center system from the host computer, the center system, in response to the received demand, allocating storage volumes within the storage subsystem to the host computer;

a type of the account information is based on a type of a user of the allocated storage volumes and based on stored management information and

a total number of the assigned switch ports or a total capacity of the allocated storage volumes are selected based on the type of the user for making the account information;

wherein if the user is a customer, the total number of allocated switch ports and the total capacity of allocated storage volumes are used; if the user is a SAN switch vendor, the total number of allocated switch ports is used; and if the user is a storage vendor, the total capacity of allocated storage volumes is used.

4. (Currently Amended) A storage management service system, comprising:

at least one storage subsystem;

a storage infrastructure on demand (SIoD) cemer system computer operable to receive a storage allocation demand from one or more host computers and, in response to the received demand, to allocate storage resources within the at least one storage subsystem to the one or more host computers;

a switch, operative to connect the at least one storage subsystem to the one or more host computers; wherein:

the storage subsystem, the SIoD center system computer, and the switch are interconnected to share information;

the SIoD center system computer receives input of a request for establishing a logical data I/O path between the at least one storage subsystem and one or more host computers via the switch;

the SIoD center system computer forwards the request to the switch; the switch establishes a connection between at least two ports, including a first port and a second port, the first port being connectable to a host computer, and the second port being connected to the at least one storage subsystem; and

at least one of the storage subsystem, the SIoD center system computer, and the switch makes account information based on at least upon a number of ports assigned, wherein:

the account information comprises at least a billing information and a payment information;

a type of the account information is based on a type of a user of allocated storage resources and based on stored management information and

a total number of the assigned switch ports or a total capacity of the allocated storage resources are selected based on the type of the user for making the account information;

wherein if the user is a customer, the total number of allocated switch ports and the total capacity of allocated storage resources are used; if the user is a SAN switch vendor, the total number of allocated switch ports is used; and if the user is a storage vendor, the total capacity of allocated storage resources are used.

11. (Currently Amended) An apparatus comprising:

storage infrastructure on demand (SIoD) center system means for receiving a request for storage and for allocating the storage in response to the received request;

means for establishing at least one logical connection between a user of storage and a provider of storage responsive to the request;

means for determining a number of resources allocated to establish the logical connection; and

means for tracking account information for at least one of the user of storage and the provider of storage, wherein the account information comprises at least a billing information and a payment information, wherein:

a type of the account information is based on a type of a user of the allocated resources and based on stored management information and

a total number of the assigned switch ports or a total capacity of the allocated storage volumes are selected based on the type of the user for making the account information;

wherein if the user is a customer, the total number of allocated switch ports and the total capacity of allocated storage volumes are used; if the user is a SAN switch vendor, the total number of allocated switch ports is used; and if the user is a storage vendor, the total capacity of allocated storage volumes is used.

15. (Currently Amended) A method for controlling allocation of storage at a center system, the method comprising:

receiving a request for establishing a logical data I/O path between a [requestor] user of storage and a provider of storage;

directing a request for a connection between the [requestor] user of storage and the provider of storage to a provider of switching connections; and

making account information based upon at least a number of ports assigned in

making the connection; wherein:

the account information comprises at least a billing information;

a type of the account information is based on a type of a user of storage and

based on stored management information and

a total amount of allocated storage or a total number of allocated switching

connections are selected based on the type of the user for making the account

information;

wherein if the user is a customer, the total number of allocated switching

connections and the total capacity of allocated storage are used; if the user is a SAN

switch vendor, the total number of allocated switching connection is used; and if the

user is a storage vendor, the total capacity of allocated storage is used.

20. (Currently Amended) A computer program product for controlling a service at a

center system, wherein via a network, the center system is connected to a host

computer, a storage subsystem mad a switch whose ports are physically connected to

an I/O controller of the host computer and ports of the storage subsystem, the computer

program product comprising:

code for receiving a request for establishing a logical data I/O path between a requestor of storage and a provider of storage;

code that directs a request for a connection between the requester of storage and the provider of storage to a provider of switching connections;

code that makes account information based upon at least a number of ports assigned in making the connection; and

a computer readable storage medium for holding the codes; wherein the account information comprises at least a billing information and a payment information, wherein:

a type of the account information is based on a type of a user of storage and based on stored management information and

a total [amount] capacity of allocated storage or a total number of [assigned] allocated ports is selected based on the type of the user for making the account information;

wherein if the user is a customer, the total number of allocated ports and the total capacity of allocated storage are used; if the user is a SAN switch vendor, the total number of allocated ports is used; and if the user is a storage vendor, the total capacity of allocated storage is used.

Claim 21-25 (Cancelled)

Reason for Allowance

The following is an examiner's statement of reasons for allowance:

The prior art of record single or in combination failed to teach the combination of the invention as claimed in independent claims 1,4,11,15,20.

For example it failed to teach a type of the account information is based on a type of a user of the allocated storage volumes and based on stored management information and a total number of the assigned switch ports or a total capacity of the allocated storage volumes are selected based on the type of the user for making the account information; wherein if the user is a customer, the total number of allocated switch ports and the total capacity of allocated storage volumes are used; if the user is a SAN switch vendor, the total number of allocated switch ports is used; and if the user is a storage vendor, the total capacity of allocated storage volumes is used which clearly support by the specification pages 12-17. These features in light of other features of the independent claims 1,4,11,15,20 enable claims' allowable.

The Dependent claims further limit the independent claims and are considered allowable on the same basis as the independent claims as well as for the further limitations set forth.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

accompany the issue fee. Such submissions should be clearly labeled "Comments on

Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Duyen M. Doan whose telephone number is (571) 272-4226. The examiner can normally be reached on 9:30am-6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bunjob Jaroenchonwanit can be reached on (571) 272-3913. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Examiner
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Art unit 2152
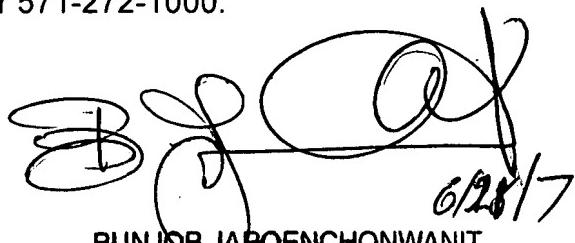
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6/28/7